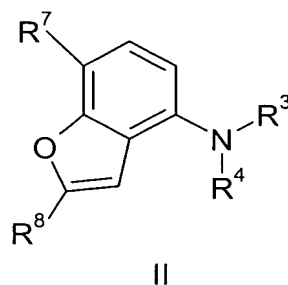
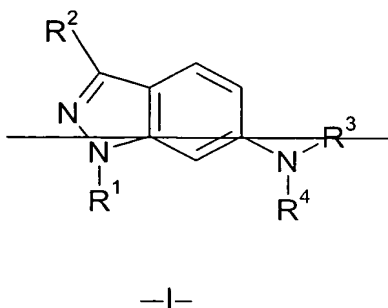


The following listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended): A compound of the formula I or II:



wherein

$R^1$ — is H,

~~alkyl having 1 to 8 carbon atoms, which is branched or unbranched and which is unsubstituted or substituted one or more times by halogen,~~

~~cycloalkyl having 3 to 10 carbon atoms, which is unsubstituted or substituted one or more times by halogen, hydroxy, oxo, cyano, alkyl having 1 to 4 carbon atoms, alkoxy having 1 to 4 carbon atoms, or combinations thereof, or~~

~~a heterocyclic group, which is saturated, partially saturated or unsaturated, having 5 to 10 ring atoms in which at least 1 ring atom is a N, O or S atom, which is unsubstituted or substituted one or more times by halogen, alkyl, hydroxy, alkoxy, alkoxyalkoxy, nitro, methylenedioxy, ethylenedioxy, trifluoromethyl, amino,~~

~~aminomethyl, aminoalkyl, aminoalkoxy dialkylamino, hydroxyalkyl, hydroxamic acid, tetrazole-5-yl, hydroxyalkoxy, carboxy, alkoxy carbonyl, cyano, acyl, alkylthio, alkylsulfinyl, alkylsulfonyl, phenoxy, or combinations thereof,~~

$R^2$  — is H, or

~~alkyl having 1 to 4 carbon atoms, which is branched or unbranched and which is unsubstituted or substituted one or more times by halogen, cyano, and/or C<sub>1-4</sub>-alkoxy, and where one or more CH<sub>2</sub>CH<sub>2</sub> groups are optionally replaced in each case by CH=CH or C≡C,~~

$R^3$  is H,

alkyl having 1 to 8 carbon atoms, which is branched or unbranched and which is unsubstituted or substituted one or more times with halogen, cyano, C<sub>1-4</sub>-alkoxy, or combinations thereof,

a partially unsaturated carbocycle-alkyl group wherein the carbocyclic portion has 5 to 14 carbon atoms and the alkyl portion which is branched or unbranched has 1 to 5 carbon atoms, and which is unsubstituted or substituted in the carbocyclic portion one or more times by halogen, alkyl, alkoxy, nitro, cyano, oxo, or combinations thereof, and the alkyl portion is optionally substituted by halogen, C<sub>1-4</sub>-alkoxy, cyano or combinations thereof,

arylalkyl having 7 to 19 carbon atoms, wherein the aryl portion has 6 to 14 carbon atoms and the alkyl portion, which is branched or unbranched, has 1 to 5 carbon atoms, arylalkyl radical is unsubstituted or substituted, in the aryl portion, one or

more times by halogen, trifluoromethyl, CF<sub>3</sub>O, nitro, amino, alkyl, alkoxy, alkylamino, dialkylamino and/or substituted in the alkyl portion by halogen, cyano, or methyl, or

heteroarylalkyl group, wherein the heteroaryl portion may be partially or fully saturated and has 5 to 10 ring atoms in which at least 1 ring atom is a N, O or S atom, the alkyl portion, which is branched or unbranched, has 1 to 5 carbon atoms, the heteroarylalkyl group is unsubstituted or substituted one or more times in the heteroaryl portion by halogen, alkyl, alkoxy, cyano, trifluoromethyl, CF<sub>3</sub>O, nitro, ~~oxy~~, amino, alkylamino, dialkylamino, or combinations thereof and/or substituted in the alkyl portion by halogen, cyano, or methyl or combinations thereof;

R<sup>4</sup> is H,

aryl having 6 to 14 carbon atoms and which is unsubstituted or substituted one or more times by halogen, alkyl, alkenyl, alkynyl, hydroxy, alkoxy, alkoxyalkoxy, nitro, methylenedioxy, ethylenedioxy, trifluoromethyl, OCF<sub>3</sub>, amino, aminoalkyl, aminoalkoxy dialkylamino, hydroxyalkyl, hydroxamic acid, tetrazole-5-yl, 2(-heterocycle)tetrazole-5-yl, hydroxyalkoxy, carboxy, alkoxycarbonyl, cyano, acyl, alkylthio, alkylsulfinyl, alkylsulfonyl, phenoxy, trialkylsilyloxy, R<sup>5</sup>-L-, or combinations thereof, or

heteroaryl having 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or substituted one or more times by halogen, alkyl, hydroxy, alkoxy, alkoxyalkoxy, nitro, methylenedioxy, ethylenedioxy,

trifluoromethyl, amino, aminomethyl, aminoalkyl, aminoalkoxy dialkylamino, hydroxyalkyl, hydroxamic acid, tetrazole-5-yl, hydroxyalkoxy, carboxy, alkoxy carbonyl, cyano, acyl, alkylthio, alkylsulfinyl, alkylsulfonyl, phenoxy, trialkylsilyloxy, R<sup>5</sup>-L-, or combinations thereof;

R<sup>5</sup> is H,

alkyl having 1 to 8 carbon atoms, which is unsubstituted or substituted one or more times with halogen, C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkoxy, oxo, or combinations thereof, alkylamino or dialkylamino wherein each alkyl portion has independently 1 to 8 carbon atoms,

a partially unsaturated carbocycle-alkyl group wherein the carbocyclic portion has 5 to 14 carbon atoms and the alkyl portion has 1 to 5 carbon atoms, which is unsubstituted or substituted, preferably in the carbocyclic portion, one or more times by halogen, alkyl, alkoxy, nitro, cyano, oxo, or combinations thereof,

cycloalkyl having 3 to 10 carbon atoms, which is unsubstituted or substituted one or more times by halogen, hydroxy, oxo, cyano, alkoxy, alkyl having 1 to 4 carbon atoms, or combinations thereof,

cycloalkylalkyl having 4 to 16 carbon atoms, which is unsubstituted or substituted in the cycloalkyl portion and/or the alkyl portion one or more times by halogen, oxo, cyano, hydroxy, alkyl, alkoxy or combinations thereof,

aryl having 6 to 14 carbon atoms and which is unsubstituted or substituted one or more times by halogen, alkyl, hydroxy, alkoxy, alkoxyalkoxy, nitro, methylenedioxy, ethylenedioxy, trifluoromethyl, amino, aminomethyl, aminoalkyl, aminoalkoxy dialkylamino, hydroxyalkyl, hydroxamic acid, tetrazole-5-yl, hydroxyalkoxy, carboxy, alkoxycarbonyl, cyano, acyl, alkylthio, alkylsulfinyl, alkylsulfonyl,

arylalkyl having 7 to 19 carbon atoms, wherein the aryl portion has 6 to 14 carbon atoms and the alkyl portion, which is branched or unbranched, has 1 to 5 carbon atoms, arylalkyl radical is unsubstituted or substituted, in the aryl portion, one or more times by halogen, trifluoromethyl, CF<sub>3</sub>O, nitro, amino, alkyl, alkoxy, amino, alkylamino, dialkylamino and/or substituted in the alkyl portion by halogen, cyano, or methyl,

a heterocyclic group, which is saturated, partially saturated or unsaturated, having 5 to 10 ring atoms in which at least 1 ring atom is a N, O or S atom, which is unsubstituted or substituted one or more times by halogen, alkyl, hydroxy, alkoxy, alkoxyalkoxy, nitro, methylenedioxy, ethylenedioxy, trifluoromethyl, amino, aminomethyl, aminoalkyl, aminoalkoxy dialkylamino, hydroxyalkyl, hydroxamic acid, tetrazole-5-yl, hydroxyalkoxy, carboxy, alkoxycarbonyl, cyano, acyl, alkylthio, alkylsulfinyl, alkylsulfonyl, phenoxy, or combinations thereof, or

a heterocycle-alkyl group, wherein the heterocyclic portion is saturated, partially saturated or unsaturated, and has 5 to 10 ring atoms in which at least 1 ring atom is a N, O or S atom, and the alkyl portion which is branched or unbranched and

has 1 to 5 carbon atoms, the heterocycle-alkyl group is unsubstituted or substituted one or more times in the heterocyclic portion by halogen, alkyl, alkoxy, cyano, trifluoromethyl, CF<sub>3</sub>O, nitro, oxo, amino, alkylamino, dialkylamino, or combinations thereof and/or substituted in the alkyl portion by halogen, cyano, or methyl or combinations thereof;

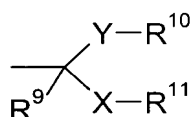
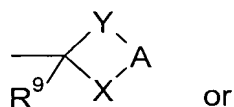
L is a single bond or a divalent aliphatic radical having up to 8 carbon atoms wherein one or more -CH<sub>2</sub>- groups are each optionally replaced by -O-, -S-, -SO<sub>2</sub>-, -SO-, -NR<sup>6</sup>-, -SO<sub>2</sub>NH-, -NHSO<sub>2</sub>-, -CO-, -NR<sup>6</sup>CO-, -CONR<sup>6</sup>-, -NHCONH-, -OCONH-, -NHCOO-, -SCONH-, -SCSNH-, or -NHCSNH-;

R<sup>6</sup> is H,

alkyl having 1 to 8 carbon atoms, which is branched or unbranched and which is unsubstituted or substituted one or more times with halogen, C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkoxy, oxo, or combinations thereof;

R<sup>7</sup> is alkoxy or alkylthio, in each case having 1 to 4 carbon atoms, which is branched or unbranched and which is unsubstituted or substituted one or more times by halogen [[,]] ;

R<sup>8</sup> is -CO-C<sub>1-4</sub>-alkyl which is branched or unbranched and where the alkyl is unsubstituted or substituted one or more times by halogen, or is



;

$\text{R}^9$  is H or alkyl having 1 to 4 carbon atoms, which is branched or unbranched, and which is unsubstituted or substituted one or more times by halogen[[],] ;

$\text{R}^{10}$  is alkyl having 1 to 6 carbon atoms, which is branched or unbranched, and which is unsubstituted or substituted one or more times by halogen[[],] ;

$\text{R}^{11}$  is alkyl having 1 to 6 carbon atoms, which is branched or unbranched, and which is unsubstituted or substituted one or more times by halogen[[],] ;

X and Y are each independently O or S[[],] ; and

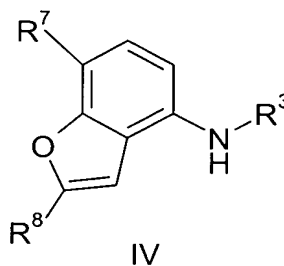
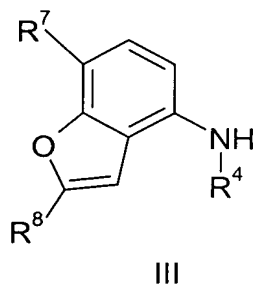
A is alkylene having 2 to 7 carbon atoms which is unsubstituted or substituted one or more times by halogen;

wherein ~~in formula I both of  $\text{R}^3$  and  $\text{R}^4$  are other than H and in formula II at least one of  $\text{R}^3$  and  $\text{R}^4$  is other than H~~; or

a pharmaceutically acceptable salt thereof;

wherein an optically active compound can be in the form of one of its separate enantiomers or mixtures thereof, including racemic mixtures.

2. (Currently Amended): A compound of claim 1, which is of formula III or IV:



wherein

R<sup>3</sup> is H,

alkyl having 1 to 8 carbon atoms, which is branched or unbranched and which is unsubstituted or substituted one or more times with halogen, cyano, C<sub>1-4</sub>-alkoxy, or combinations thereof,

a partially unsaturated carbocycle-alkyl group wherein the carbocyclic portion has 5 to 14 carbon atoms and the alkyl portion which is branched or unbranched has 1 to 5 carbon atoms, and which is unsubstituted or substituted in the carbocyclic portion one or more times by halogen, alkyl, alkoxy, nitro, cyano, oxo, or combinations thereof, and the alkyl portion is optionally substituted by halogen, C<sub>1-4</sub>-alkoxy, cyano or combinations thereof,

arylalkyl having 7 to 19 carbon atoms, wherein the aryl portion has 6 to 14 carbon atoms and the alkyl portion, which is branched or unbranched, has 1 to 5 carbon atoms, arylalkyl radical is unsubstituted or substituted, in the aryl portion, one or



more times by halogen, trifluoromethyl, CF<sub>3</sub>O, nitro, amino, alkyl, alkoxy, alkylamino, dialkylamino and/or substituted in the alkyl portion by halogen, cyano, or methyl, or

heteroarylalkyl group, wherein the heteroaryl portion may be partially or fully saturated and has 5 to 10 ring atoms in which at least 1 ring atom is a N, O or S atom, the alkyl portion, which is branched or unbranched, has 1 to 5 carbon atoms, the heteroarylalkyl group is unsubstituted or substituted one or more times in the heteroaryl portion by halogen, alkyl, alkoxy, cyano, trifluoromethyl, CF<sub>3</sub>O, nitro, ~~oxy~~-amino, alkylamino, dialkylamino, or combinations thereof and/or substituted in the alkyl portion by halogen, cyano, or methyl or combinations thereof;

R<sup>4</sup> is H,

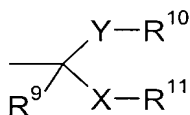
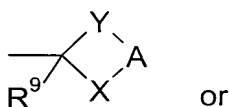
aryl having 6 to 14 carbon atoms and which is unsubstituted or substituted one or more times by halogen, alkyl, alkenyl, alkynyl, hydroxy, alkoxy, alkoxyalkoxy, nitro, methylenedioxy, ethylenedioxy, trifluoromethyl, OCF<sub>3</sub>, amino, aminoalkyl, aminoalkoxy dialkylamino, hydroxyalkyl, hydroxamic acid, tetrazole-5-yl, 2(-heterocycle)tetrazole-5-yl, hydroxyalkoxy, carboxy, alkoxycarbonyl, cyano, acyl, alkylthio, alkylsulfinyl, alkylsulfonyl, phenoxy, trialkylsilyloxy, R<sup>5</sup>-L-, or combinations thereof, or

heteroaryl having 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or substituted one or more times by halogen, alkyl, hydroxy, alkoxy, alkoxyalkoxy, nitro, methylenedioxy, ethylenedioxy,

trifluoromethyl, amino, aminomethyl, aminoalkyl, aminoalkoxy dialkylamino, hydroxyalkyl, hydroxamic acid, tetrazole-5-yl, hydroxyalkoxy, carboxy, alkoxycarbonyl, cyano, acyl, alkylthio, alkylsulfinyl, alkylsulfonyl, phenoxy, trialkylsilyloxy, R<sup>5</sup>-L-, or combinations thereof;

R<sup>7</sup> is alkoxy or alkylthio, in each case having 1 to 4 carbon atoms, which is branched or unbranched and which is unsubstituted or substituted one or more times by halogen[[,] ;

R<sup>8</sup> is -CO-C<sub>1-4</sub>-alkyl which is branched or unbranched and where the alkyl is unsubstituted or substituted one or more times by halogen, or is

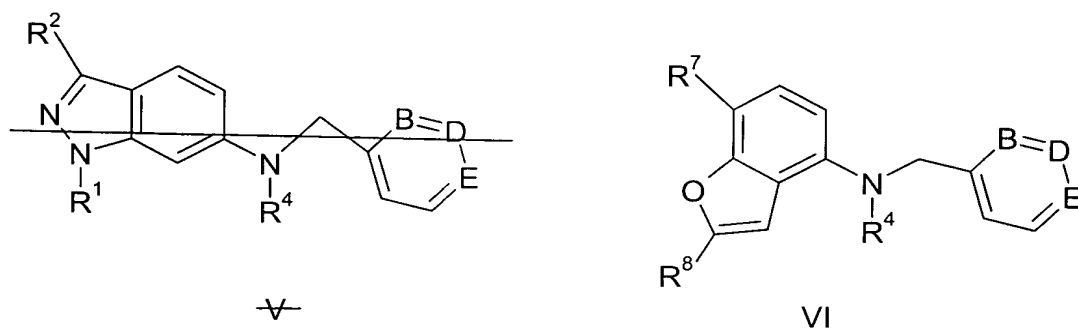


;

or a pharmaceutically acceptable salt thereof;

wherein an optically active compound can be in the form of one of its separate enantiomers or mixtures thereof, including racemic mixtures.

3. (Currently Amended): A compound of claim 1, which is of the subformula ~~V or~~ VI:



wherein

$R^+$  — is H,

~~alkyl having 1 to 8 carbon atoms, which is branched or unbranched and which is unsubstituted or substituted one or more times by halogen,~~

~~cycloalkyl having 3 to 10 carbon atoms, which is unsubstituted or substituted one or more times by halogen, hydroxy, oxo, cyano, alkyl having 1 to 4 carbon atoms, alkoxy having 1 to 4 carbon atoms, or combinations thereof, or~~

~~a heterocyclic group, which is saturated, partially saturated or unsaturated, having 5 to 10 ring atoms in which at least 1 ring atom is a N, O or S atom, which is unsubstituted or substituted one or more times by halogen, alkyl, hydroxy, alkoxy, alkoxyalkoxy, nitro, methylenedioxy, ethylenedioxy, trifluoromethyl, amino, aminomethyl, aminoalkyl, aminoalkoxy dialkylamino, hydroxyalkyl, hydroxamic~~

~~acid, tetrazole-5-yl, hydroxyalkoxy, carboxy, alkoxycarbonyl, cyano, acyl, alkylthio, alkylsulfinyl, alkylsulfonyl, phenoxy, or combinations thereof,~~

$R^2$  — is H, or

~~alkyl having 1 to 4 carbon atoms, which is branched or unbranched and which is unsubstituted or substituted one or more times by halogen, cyano, and/or C<sub>1-4</sub>-alkoxy, and where one or more —CH<sub>2</sub>CH<sub>2</sub>— groups are optionally replaced in each case by —CH=CH— or —C≡C—,~~

$R^4$  is H,

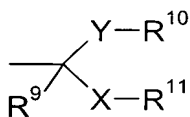
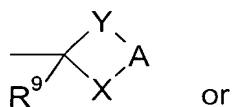
aryl having 6 to 14 carbon atoms and which is unsubstituted or substituted one or more times by halogen, alkyl, alkenyl, alkynyl, hydroxy, alkoxy, alkoxyalkoxy, nitro, methylenedioxy, ethylenedioxy, trifluoromethyl, OCF<sub>3</sub>, amino, aminoalkyl, aminoalkoxy dialkylamino, hydroxyalkyl, hydroxamic acid, tetrazole-5-yl, 2-(heterocycle)tetrazole-5-yl, hydroxyalkoxy, carboxy, alkoxycarbonyl, cyano, acyl, alkylthio, alkylsulfinyl, alkylsulfonyl, phenoxy, trialkylsilyloxy,  $R^5$ -L-, or combinations thereof, or

heteroaryl having 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or substituted one or more times by halogen, alkyl, hydroxy, alkoxy, alkoxyalkoxy, nitro, methylenedioxy, ethylenedioxy, trifluoromethyl, amino, aminomethyl, aminoalkyl, aminoalkoxy dialkylamino, hydroxyalkyl, hydroxamic acid, tetrazole-5-yl, hydroxyalkoxy, carboxy,

alkoxycarbonyl, cyano, acyl, alkylthio, alkylsulfinyl, alkylsulfonyl, phenoxy, trialkylsilyloxy, R<sup>5</sup>-L-, or combinations thereof;

R<sup>7</sup> is alkoxy or alkylthio, in each case having 1 to 4 carbon atoms, which is branched or unbranched and which is unsubstituted or substituted one or more times by halogen [[,]];

R<sup>8</sup> is -CO-C<sub>1-4</sub>-alkyl which is branched or unbranched and where the alkyl is unsubstituted or substituted one or more times by halogen, or is



;

and one of B, D and E is N and the other two are C.

4. (Original): A compound of claim 3, wherein D is N and B and E are C.

5. (Original): A compound of claim 3, wherein R<sup>4</sup> is pyridyl or phenyl which are unsubstituted or substituted one or more times by halogen, alkyl, alkenyl, alkynyl, hydroxy, alkoxy, alkoxyalkoxy, nitro, methylenedioxy, ethylenedioxy, trifluoromethyl, OCF<sub>3</sub>, amino, aminoalkyl, aminoalkoxy dialkylamino, hydroxyalkyl, hydroxamic acid, tetrazole-5-yl, 2(-heterocycle)tetrazole-5-yl, hydroxyalkoxy, carboxy,

alkoxycarbonyl, cyano, acyl, alkylthio, alkylsulfinyl, alkylsulfonyl, phenoxy, trialkylsilyloxy, R<sup>5</sup>-L-, or combinations thereof.

6. (Currently Amended): A compound of claim 1, which is:

7-Methoxy-2-(2-methyl-(1,3-dioxolane-2-yl))-4-[*N*-(4-pyridylmethyl)]aminobenzofuran,

7-Methoxy-2-(2-methyl-(1,3-dioxolane-2-yl))-4-[*N*-(3-pyridylmethyl)]aminobenzofuran,

7-Methoxy-2-(2-methyl-(1,3-dioxolane-2-yl))-4-[*N*-phenyl-*N*-(4-pyridylmethyl)]aminobenzofuran,

7-Methoxy-2-(2-methyl-(1,3-dioxolane-2-yl))-4-[*N*-(3-cyanophenyl)-*N*-(3-pyridylmethyl)]aminobenzofuran,

7-Methoxy-2-(2-methyl-(1,3-dioxolane-2-yl))-4-[*N*-phenyl-*N*-(3-pyridylmethyl)]aminobenzofuran,

7-Methoxy-2-(2-methyl-(1,3-dioxolane-2-yl))-4-[*N*-(3-cyanophenyl)-*N*-(4-pyridylmethyl)]aminobenzofuran,

7-Methoxy-2-(2-methyl-(1,3-dioxolane-2-yl))-4-[*N*-(4-acetylphenyl)-*N*-(3-pyridylmethyl)]aminobenzofuran,

7-Methoxy-2-(2-methyl-(1,3-dioxolane-2-yl))-4-[*N*-(4-carboxyphenyl)-*N*-(3-pyridylmethyl)]aminobenzofuran,

7-Methoxy-2-(2-methyl-(1,3-dioxolane-2-yl))-4-[*N*-(4-(2H-tetrazol-5-yl)phenyl)-*N*-(3-pyridylmethyl)]aminobenzofuran,

7-Methoxy-2-(2-methyl-(1,3-dioxolane-2-yl))-4-[*N*-(4-carboxy-3-chlorophenyl)-*N*-(3-pyridylmethyl)]aminobenzofuran,

7-Methoxy-2-(2-methyl-(1,3-dioxolane-2-yl))-4-[*N*-(3-carboxy-5-fluorophenyl)-*N*-(3-pyridylmethyl)]aminobenzofuran,

~~1-Cyclopentyl-6-[N-(3-(1,1-dimethylethoxycarbonyl)phenyl)-N-(3-pyridylmethyl)]-1H-  
aminoindazole,~~

2-Acetyl-7-methoxy-4-(N-(4-cyanophenyl)-N-(3-pyridylmethyl))aminobenzofuran,

2-Acetyl-7-methoxy-4-(N-phenyl-N-(4-pyridylmethyl))aminobenzofuran,

~~1-Cyclopentyl-6-(N-phenyl-N-(3-pyridylmethyl))aminoindazole,~~

~~1-Cyclopentyl-6-(N-(3-carboxyphenyl)-N-(3-pyridylmethyl))aminoindazole,~~

2-Acetyl-7-methoxy-4-(N-(3-carboxyphenyl)-N-(3-pyridylmethyl))aminobenzofuran,

7-Methoxy-2-(2-methyl-(1,3-dioxolane-2-yl))-4-(N-(4-cyanophenyl)-N-(3-  
pyridylmethyl))-aminobenzofuran,

2-Acetyl-7-methoxy-4-(N-(3-cyanophenyl)-N-(3-pyridylmethyl))aminobenzofuran,

2-Acetyl-7-methoxy-4-(N-phenyl-N-(3-pyridylmethyl))aminobenzofuran,

2-Acetyl-7-methoxy-4-(N-(3-cyanophenyl)-N-(4-pyridylmethyl))aminobenzofuran,

2-Acetyl-7-methoxy-4-(N-(4-acetylphenyl)-N-(3-pyridylmethyl))aminobenzofuran,

2-Acetyl-7-methoxy-4-[N-(4-carboxyphenyl)-N-(3-pyridylmethyl)]aminobenzofuran,

2-Acetyl-7-methoxy-4-[N-(4-(2H-tetrazol-5-yl)phenyl)-N-(3-  
pyridylmethyl)]aminobenzofuran,

2-Acetyl-7-methoxy-4-[N-(4-carboxy-3-chlorophenyl)-N-(3-  
pyridylmethyl)]aminobenzofuran,

2-Acetyl-7-methoxy-4-[N-(3-carboxy-5-fluorophenyl)-N-(3-  
pyridylmethyl)]aminobenzofuran,

~~6-Amino-1-cyclopentyl-3-ethyl-6-[N-(3-(1,1-dimethylethoxycarbonyl)phenyl)-N-(3-  
pyridylmethyl)]amino-1H-indazole,~~

~~1-Cyclopentyl-3-ethyl-6-[N-(3-carboxyphenyl)-N-(3-pyridylmethyl)]amino-1H-indazole,~~

2-Acetyl-7-methoxy-*N*-(4-phenylsulfonylaminocarbonylphenyl)-*N*-(3-pyridylmethyl]-4-aminobenzofuran,

or

a pharmaceutically acceptable salt thereof,

wherein optically active compounds can be in the form of their separate enantiomers or mixtures thereof, including racemic mixtures.

7. (Currently Amended): A compound of claim 1, wherein:

each aryl group is, independently, a phenyl, naphthyl or biphenyl group optionally substituted one or more times by halogen, alkyl, hydroxy, alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, alkylamino, dialkylamino, hydroxyalkyl, hydroxyalkoxy, carboxy, cyano, acyl, alkoxycarbonyl, alkylthio, alkylsulfinyl, alkylsulfonyl, or phenoxy;

each heteroaryl group is, independently, a furyl, thienyl, pyrrolyl, pyrazolyl, imidazolyl, triazolyl, tetrazolyl, dithialyl, oxathialyl, isoxazolyl, oxazolyl, thiazolyl, isothiazolyl, oxadiazolyl, oxatriazolyl, dioxazolyl, oxathiazolyl, thiadiazolyl, pyridyl, pyridazinyl, pyrimidinyl, pyrazinyl, triazinyl, oxazinyl, isoxazinyl, oxathiazinyl, oxadiazinyl, benzofuranyl, isobenzofuranyl, thionaphthenyl, isothionaphthenyl, indolyl, isoindolyl, indazolyl, benzisoxazolyl, benzoxazolyl, benzthiazolyl, benzisothiazolyl, purinyl, benzopyranyl, quinolinyl, isoquinolinyl, cinnolinyl, quinazolinyl, naphthyridinyl, or benzoxazinyl group optionally substituted in one or more places by halogen, aryl, alkyl, alkoxy, carboxy, methylene, cyano, trifluoromethyl, nitro, ~~oxy~~, amino, alkylamino, or dialkylamino; and



each heterocycle group is, independently, a heteroaryl group as stated above or a tetrahydrofuranyl, piperidinyl, or pyrrolidinyl group optionally substituted as stated above.

8. (Currently Amended): A compound of claim 1, wherein:

~~R<sup>1</sup> is an alkyl group having 2 to 4 carbon atoms which is optionally substituted by fluorine or chlorine or is cyclopentyl or cyclohexyl;~~

~~R<sup>2</sup> is H or alkyl having 1 to 4 carbon atoms;~~

R<sup>3</sup> is hydrogen; alkyl having 1 to 4 carbon atoms; substituted or unsubstituted ~~unsubstituted~~ benzyl, phenethyl, and phenpropyl; or substituted or unsubstituted pyridylmethyl, furanylmethyl, thienylmethyl, pyrrolylmethyl, pyrimidinylmethyl, thiazolylmethyl, isoquinolinylmethyl and quinolinylmethyl;

R<sup>4</sup> is phenyl, naphthyl, biphenyl, furanyl, pyrazinyl, pyrimidinyl, pyridyl, quinolinyl, and isoquinolinyl, which in each case is unsubstituted or is substituted one or more times by OH, F, Cl, CF<sub>3</sub>, alkyl, alkoxy, CN, vinyl, CH<sub>2</sub>OH, CONHOH, CONH<sub>2</sub>, methylenedioxy or COOH, or when R<sup>4</sup> is phenyl, is optionally substituted by R<sup>5</sup>-, R<sup>5</sup>-O-, R<sup>5</sup>-CO-, R<sup>5</sup>-NH-CO-, R<sup>5</sup>-SO<sub>2</sub>-NH-, R<sup>5</sup>-SO<sub>2</sub>-NH-alkylene-O-, NH<sub>2</sub>-alkyl-NH-CO-, R<sup>5</sup>-alkylene-NH-CO-, alkyl-CO-NH-alkyl- as well as methyl, ethyl, Cl, F, CN, OCH<sub>3</sub>, CF<sub>3</sub>, amino, nitro, HOCH<sub>2</sub> or COOH; and

R<sup>7</sup> is alkoxy having 1 to 4 carbon atoms, which is branched or unbranched and which is unsubstituted or substituted one or more times by halogen;

R<sup>8</sup> is -CO-C<sub>1-4</sub>-alkyl;

~~R<sup>9</sup> is -CH<sub>3</sub>;~~

~~X and Y are each O or S; and~~

A is ~~CH<sub>2</sub>CH<sub>2</sub>-~~

9. (Original): A compound of claim 1, wherein:

R<sup>3</sup> is arylalkyl or heteroarylalkyl, in each case substituted or unsubstituted; and

R<sup>4</sup> is H or is aryl or heteroaryl, in each case substituted or unsubstituted.

10. (Cancelled):

11. (Cancelled):

12. (Cancelled):

13. (Currently Amended): A compound of claim 1, wherein:

~~R<sup>1</sup> is cyclopentyl;~~

~~R<sup>2</sup> is H or C<sub>2</sub>H<sub>5</sub>;~~

R<sup>3</sup> is pyridyl which is substituted or unsubstituted; and

R<sup>4</sup> is H or is aryl or heteroaryl, in each case substituted or unsubstituted.

14. (Currently Amended): A compound of claim 1, wherein:

~~R<sup>1</sup> is cyclopentyl;~~

~~R<sup>2</sup> is H or C<sub>2</sub>H<sub>5</sub>;~~

R<sup>3</sup> is pyridyl which is substituted or unsubstituted; and

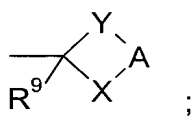
R<sup>4</sup> is phenyl which is substituted or unsubstituted.

15. (Cancelled):

16. (Original): A compound of claim 1, wherein:

$R^7$  is alkoxy having 1 to 4 carbon atoms;

$R^8$  is  $\text{COCH}_3$  or



$R^9$  is  $-\text{CH}_3$ ;

X and Y are both O or S; and

A is  $-\text{CH}_2\text{CH}_2-$ .

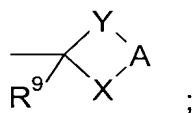
17. (Original): A compound of claim 1, wherein:

$R^3$  is arylalkyl or heteroarylalkyl, in each case substituted or unsubstituted; and

$R^4$  is H or is aryl or heteroaryl, in each case substituted or unsubstituted;

$R^7$  is alkoxy having 1 to 4 carbon atoms;

$R^8$  is  $\text{COCH}_3$  or



$R^9$  is  $-\text{CH}_3$ ;

X and Y are both O or S; and

A is  $-\text{CH}_2\text{CH}_2-$ .

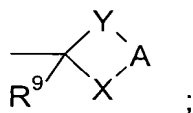
18. (Original): A compound of claim 1, wherein:

$R^3$  is pyridyl which is substituted or unsubstituted;

$R^4$  is H or is aryl or heteroaryl, in each case substituted or unsubstituted;

$R^7$  is alkoxy having 1 to 4 carbon atoms;

$R^8$  is  $\text{COCH}_3$  or



$R^9$  is  $-\text{CH}_3$ ;

X and Y are both O or S; and

A is  $-\text{CH}_2\text{CH}_2-$ .

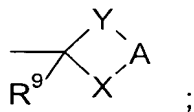
19. (Original): A compound of claim 1, wherein:

$R^3$  is pyridyl which is substituted or unsubstituted;

$R^4$  is phenyl which is substituted or unsubstituted;

$R^7$  is alkoxy having 1 to 4 carbon atoms;

$R^8$  is  $\text{COCH}_3$  or



$R^9$  is  $-\text{CH}_3$ ;

X and Y are both O or S; and

A is  $-\text{CH}_2\text{CH}_2-$ .

20. (Original): A pharmaceutical composition containing a compound of claim 1 and a pharmaceutically acceptable carrier.
21. (Original): A composition of claim 20, wherein the compound of claim 1 is provided in a unit dosage of 0.1 - 50 mg.
22. (Currently Amended): A method for ~~effecting PDE4 enzyme inhibition,~~ enhancing cognition ~~and/or treating psychosis~~ in a patient comprising administering to said patient an effective amount of a compound according to claim 1.
23. (Original): A method according to claim 22, wherein said compound is administered in an amount of 0.01-100 mg/kg of body weight/day.
24. (Original): A method according to claim 22, wherein said patient is a human.
25. (Original): A method of claim 22, wherein the patient is suffering from cognition impairment or decline.
26. (Original): A method according to claim 22, wherein said patient is suffering from memory impairment.
27. (Cancelled):

28. (Original): A method according to claim 26, wherein said patient is suffering from memory impairment due to dementia.

29. (Currently Amended): A method ~~according to claim 22, wherein said patient is suffering from a psychosis~~ for treating psychosis in a patient comprising administering to said patient an effective amount of a compound according to claim 1.

30. (Currently Amended): The method of claim 29, wherein said patient is suffering from ~~the psychosis is~~ schizophrenia, bipolar or manic depression, or major depression, ~~drug addiction or morphine dependence.~~

31. (Cancelled):

32. (Cancelled):

33. (Original): A method of treating a patient suffering from an allergic or inflammatory disease comprising administering to said patient an effective amount of a compound according to claim 1.

34. (Original): A method of treating a patient suffering from neurodegeneration resulting from a disease or injury comprising administering to said patient an effective amount of a compound according to claim 1.

35. (Currently Amended): The method of claim 34, wherein the disease or injury is stroke, spinal cord injury, ~~neurogenesis~~, Alzheimer's disease, multiple sclerosis, amyolaterosclerosis (ALS), or multiple systems atrophy (MSA).

36. (Currently Amended): A method according to claim 26, wherein said patient is suffering from memory impairment due to Alzheimer's disease, schizophrenia, Parkinson's disease, Huntington's disease, Pick's disease, Creutzfeld-Jakob disease, depression, aging, head trauma, stroke, CNS hypoxia, cerebral senility, multiinfarct dementia, an acute neuronal disease, age-related cognitive decline, HIV or a cardiovascular disease.

37. (New): A compound according to claim 1, wherein R<sup>3</sup> is methyl, ethyl, propyl, isopropyl, butyl, sec-butyl, tert-butyl, pentyl, hexyl, heptyl, octyl, 1-, 2- or 3-methylbutyl, 1,1-, 1,2- or 2,2-dimethylpropyl, 1-ethylpropyl, 1-, 2-, 3- or 4-methylpentyl, 1,1-, 1,2-, 1,3-, 2,2-, 2,3- or 3,3-dimethylbutyl, 1- or 2-ethylbutyl, ethylmethylpropyl, trimethylpropyl, methylhexyl, dimethylpentyl, ethylpentyl, ethylmethylbutyl, dimethylbutyl, or an alkyl having 1 to 8 carbon atoms, which is branched or unbranched and which is substituted one or more times with halogen.

38. (New): A compound according to claim 1, wherein R<sup>4</sup> is phenyl, naphthyl or biphenyl, which is unsubstituted or substituted one or more times by halogen, alkyl, hydroxy, alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, alkylamino, dialkylamino, hydroxyalkyl, hydroxyalkoxy, carboxy, cyano, acyl, alkoxycarbonyl, alkylthio, alkylsulfinyl, alkylsulfonyl, or phenoxy, and

acyl is an alkanoyl radical having 1 to 13 carbon atoms in which the alkyl portion is unsubstituted or substituted by halogen, alkyl, aryl and/or alkoxy, or acyl is an aroyl radical having 7 to 15 carbon atoms in which the aryl portion is unsubstituted or substituted by halogen, alkyl and/or alkoxy.

39. (New): A compound according to claim 1, wherein  $R^3$  is benzyl, 1-phenethyl, 2-phenethyl, phenpropyl, phenbutyl, phenpentyl, or naphthylmethyl.

40. (New): A compound according to claim 1, wherein  $R^4$  is furyl, thienyl, pyrrolyl, pyrazolyl, imidazolyl, triazolyl, tetrazolyl, dithialyl, oxathialyl, isoxazolyl, oxazolyl, thiazolyl, isothiazolyl, oxadiazolyl, oxatriazolyl, dioxazolyl, oxathiazolyl, thiadiazolyl, pyridyl, pyridazinyl, pyrimidinyl, pyrazinyl, triazinyl, oxazinyl, isoxazinyl, oxathiazinyl, oxadiazinyl, benzofuranyl, isobenzofuranyl, thionaphthenyl, isothionaphthenyl, indolyl, isoindolyl, indazolyl, benzisoxazolyl, benzoxazolyl, benzthiazolyl, benzisothiazolyl, purinyl, benzopyranyl, quinolinyl, isoquinolinyl, cinnolinyl, quinazolinyl, naphthyridinyl, or benzoxazinyl,

which in each case is unsubstituted or substituted in one or more places by halogen, aryl, alkyl, alkoxy, carboxy, methylene, cyano, trifluoromethyl, nitro, amino, alkylamino, or dialkylamino.

41. (New): A compound according to claim 1, wherein  $R^4$  is 2-thienyl, 3-thienyl, 2-, 3- or 4-pyridyl, 2-, 3-, 4-, 5-, 6-, 7- or 8-quinolinyl, or 1-, 3-, 4-, 5-, 6-, 7- or 8-isoquinolinyl, which in each case is unsubstituted or substituted in one or more places



by halogen, aryl, alkyl, alkoxy, carboxy, methylene, cyano, trifluoromethyl, nitro, amino, alkylamino, or dialkylamino.

42. (New): A compound according to claim 1, wherein  $R^3$  is hydrogen, methyl, ethyl, n-propyl, n-butyl, benzyl, benzyl substituted by F, Cl,  $CH_3$ ,  $C_2H_5$ ,  $OCH_3$ , CN, or combinations thereof, phenethyl, phenethyl substituted by F, Cl,  $CH_3$ ,  $C_2H_5$ ,  $OCH_3$ , CN, or combinations thereof, phenpropyl, phenpropyl substituted by F, Cl,  $CH_3$ ,  $C_2H_5$ ,  $OCH_3$ , CN, or combinations thereof, pyridylmethyl, pyridylmethyl substituted by are F, Cl,  $CH_3$ ,  $C_2H_5$ ,  $OCH_3$ , CN, or combinations thereof, furanylmethyl, furanylmethyl substituted by are F, Cl,  $CH_3$ ,  $C_2H_5$ ,  $OCH_3$ , CN, or combinations thereof, thienylmethyl, thienylmethyl substituted by are F, Cl,  $CH_3$ ,  $C_2H_5$ ,  $OCH_3$ , CN, or combinations thereof, pyrrolylmethyl, pyrrolylmethyl substituted by are F, Cl,  $CH_3$ ,  $C_2H_5$ ,  $OCH_3$ , CN, or combinations thereof, pyrimidinylmethyl, pyrimidinylmethyl substituted by are F, Cl,  $CH_3$ ,  $C_2H_5$ ,  $OCH_3$ , CN, or combinations thereof, thiazolylmethyl, thiazolylmethyl substituted by are F, Cl,  $CH_3$ ,  $C_2H_5$ ,  $OCH_3$ , CN, or combinations thereof, isoquinolinylmethyl, isoquinolinylmethyl substituted by are F, Cl,  $CH_3$ ,  $C_2H_5$ ,  $OCH_3$ , CN, or combinations thereof, quinolinylmethyl, or quinolinylmethyl substituted by are F, Cl,  $CH_3$ ,  $C_2H_5$ ,  $OCH_3$ , CN, or combinations thereof.

43. (New): A compound according to claim 1, wherein  $R^4$  is phenyl, naphthyl, biphenyl, furanyl, pyrazinyl, pyrimidinyl, pyridyl, quinolinyl, and isoquinolinyl, which in each case is unsubstituted or is substituted one or more times by

OH, F, Cl, CF<sub>3</sub>, methyl, ethyl, methoxy, ethoxy, CN, vinyl, CH<sub>2</sub>OH, CONHOH, CONH<sub>2</sub>, methylenedioxy, COOH, or combinations thereof.

44. (New): A compound according to claim 1, wherein R<sup>4</sup> is phenyl which is unsubstituted or is substituted one or more times by OH, F, Cl, CF<sub>3</sub>, methyl, ethyl, methoxy, ethoxy, CN, vinyl, CH<sub>2</sub>OH, CONHOH, CONH<sub>2</sub>, methylenedioxy, COOH, or combinations thereof.

45. (New): A compound according to claim 1, wherein R<sup>3</sup> is pyridylmethyl.

46. (New): A compound according to claim 44, wherein R<sup>3</sup> is pyridylmethyl.

47. (New): A composition according to claim 20, further comprising another pharmaceutical agent selected from other PDE4 inhibitors, calcium channel blockers, cholinergic drugs, adenosine receptor modulators, ampakines, NMDA-R modulators, mGluR modulators, and cholinesterase inhibitors.

48. (New): A method for treating a patient suffering from drug addiction or morphine dependence comprising administering to said patient an effective amount of a compound according to claim 1.

49. (New): A method according to claim 33, wherein said patient is suffering inflammation due to asthma, chronic bronchitis, chronic obstructive pulmonary disease, atopic dermatitis, urticaria, allergic rhinitis, allergic conjunctivitis, vernal conjunctivitis,

esoniophilic granuloma, psoriasis, inflammatory arthritis, rheumatoid arthritis, septic shock, ulcerative colitis, Crohn's disease, reperfusion injury of the myocardium, reperfusion injury of the brain, chronic glomerulonephritis, endotoxic shock, adult respiratory distress syndrome, cystic fibrosis, arterial restenosis, arteriosclerosis, keratosis, rheumatoid spondylitis, osteoarthritis, pyresis, diabetes mellitus, pneumoconiosis, chronic obstructive airways disease, toxic contact eczema, allergic contact eczema, atopic eczema, seborrheic eczema, lichen simplex, sunburn, pruritis in the anogenital area, alopecia areata, hypertrophic scars, discoid lupus erythematosus, systemic lupus erythematosus, follicular pyodermias, wide-area pyodermias, endogenous acne, exogenous acne, acne rosacea, Beghet's disease, anaphylactoid purpura nephritis, inflammatory bowel disease, leukemia, multiple sclerosis, gastrointestinal disease, or autoimmune disease.

50. (New): A method of treating a patient suffering from an allergic or inflammatory disease associated with decreased cyclic AMP levels, elevated phosphodiesterase 4 levels, or both, said method comprising administering to said patient an anti-inflammatory effective amount of a compound according to claim 1.

51. (New): A method according to claim 50, wherein said patient is suffering inflammation due to asthma, chronic bronchitis, chronic obstructive pulmonary disease, atopic dermatitis, urticaria, allergic rhinitis, allergic conjunctivitis, vernal conjunctivitis, esoniophilic granuloma, psoriasis, inflammatory arthritis, rheumatoid arthritis, septic shock, ulcerative colitis, Crohn's disease, reperfusion injury of the myocardium,

reperfusion injury of the brain, chronic glomerulonephritis, endotoxic shock, adult respiratory distress syndrome, cystic fibrosis, arterial restenosis, arteriosclerosis, keratosis, rheumatoid spondylitis, osteoarthritis, pyresis, diabetes mellitus, pneumoconiosis, chronic obstructive airways disease, toxic contact eczema, allergic contact eczema, atopic eczema, seborrheic eczema, lichen simplex, sunburn, pruritis in the anogenital area, alopecia areata, hypertrophic scars, discoid lupus erythematosus, systemic lupus erythematosus, follicular pyodermias, wide-area pyodermias, endogenous acne, exogenous acne, acne rosacea, Beghet's disease, anaphylactoid purpura nephritis, inflammatory bowel disease, leukemia, multiple sclerosis, gastrointestinal disease, or autoimmune disease.

52. (New): A method for enhancing cognition by decreasing phosphodiesterase 4 levels in a patient comprising administering to said patient an effective amount of a compound according to claim 1.

53. (New): A method for treating a patient suffering psychosis resulting from elevated levels of phosphodiesterase 4 comprising administering to said patient an effective amount of a compound according to claim 1.

54. (New): A method of treating a patient suffering from neurodegeneration, resulting from a disease or injury, by raising cAMP levels, said method comprising administering to said patient an effective amount of a compound according to claim 1.

55. (New): A method for treating a patient suffering from drug addiction or morphine dependence, by increasing cAMP levels, inhibiting PDE4 enzyme, or both in a patient comprising administering to said patient an amount, effective to increase cAMP levels, inhibit PDE4 enzyme, or both, of a compound according to claim 1.